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Division of Agricultural Sciences
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MULTIPLE PRICE PLANS FOR RICE

George L. Mehren

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SUMMARY

Production of United States rice is now about twice the volume that can move domestically at present support price levels. The remainder depends for removal on unstable foreign markets in which prices have softened. Lowering of the support price under long-run provisions of present statutes will not permit maintenance of volume of production.

In this report, alternative price plans are appraised in terms of impact upon farm value of the crop; administrative feasibility; interference with marketing or production decisions of producers and handlers; diversion or production control; impact upon other policies of government; and costs and equities.

Diversion programs will not avert large surpluses or production control.

Allotment plans not including Cuba in the primary market will enhance returns only a little above free-market levels and will have generally undesirable results as judged by the other criteria of appraisal.

Direct subsidy is more efficient in terms of stabilizing farm income and is free of nearly all of the major difficulties associated with allotment plans. If it is undesirable or impossible to return rice to free-market disposition, the subsidy plan appears to be the most effective of the alternatives considered. Inclusion of Cuba in the primary market would make it possible to maintain farm income at nearly the levels obtainable by present price-support methods without most of the undesirable features of diversion plans.

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MULTIPLE PRICE PLANS FOR RICE

by

George L. Mehren[1/]

Introduction

This report considers the economic and administrative attributes of multiple price plans generally and of specific plans which could be made applicable to rice. Present statutes specify rigid price support for rice in 1954, with sliding scales thereafter. Some alternatives provide for greater flexibility, and perhaps options, in the combinations of price level and production adjustment. Other alternatives provide explicitly for different prices in different outlets.

The current situation and outlook for United States rice are first described, and the impact of present support programs is evaluated. Standards for judgment of alternative programs are established. The economics of multiple pricing in general are considered in terms of: objectives, necessary conditions, major types, market definition, price targets, implications with respect to other commodities and other nations, and long-run status. Administrative feasibility is considered in terms of: data and relationships which must be measured, impact of error in such estimates, allotment and equities, burdens and benefits, administrative procedures, and enforcement. Specific plans are described and appraised. Findings are summarized and recommendations are offered.

1. The Situation and Outlook for United States Rice

Supply

Between World Wars I and II, the United States produced about 20,000,000 hundredweight, rough basis, annually.[2/] The 1941 crop was 28,000,000 sacks. Estimated production for 1954 is a record high of 58,500,000 hundredweight. Both acreage and yields have risen steadily for all areas and varieties. Increases in production and price have been closely correlated with rising

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I. The Situation and Outlook for United States Rice

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national buying power and export prices. Imports have been important only in specialty items, and carry-over has not often been serious. The total United States supply for 1954-55 will be about 65,000,000 sacks.

Distribution

Continental food outlets take from 11,000,000 to 12,500,000 sacks annually. Brewers use about one third as much. Total territorial sales have been fairly stable. All told, domestic channels now absorb about one half of total supply.

Although United States output is less than 2 per cent of world production, United States exports have been more than one sixth of world trade. In recent years, nearly half of United States output has been exported, with Japan and Cuba together taking nearly 90 per cent. The proportions of regional and varietal outputs used in the several outlets differ sharply. But one fact faces all areas and varieties: an increasing percentage of expanding United States production depends upon unstable foreign outlets.

Farm Prices

United States farm prices have varied mainly with changes in national income and rice supply. Price changes among varieties, grades, and areas have been almost perfectly correlated and quickly distributed. In general, farm price has been the same from all channels of sale. Under long-run average conditions, a given percentage increase in annual sales has been associated with a larger percentage decline in farm price. In recent years, gross farm income would begin to decline if annual domestic sales much exceeded about 30,000,000 sacks.

In 1952-53, at a farm price of $6.05, domestic uses absorbed about 25,700,000 sacks out of a total supply of 54,500,000 sacks.3/ At the support price of $5.04, domestic use would have increased and exports decreased by about 6,000,000 sacks. If market price had been below $5.04, growers would have diverted about 20,000,000 sacks. If it had been necessary to move the whole supply domestically without price support, farm price would have been less than $1, and farm value would have fallen from the actual $300,000,000 to about $40,000,000. Price and income would break disastrously if the whole of present supplies had to be disposed of domestically.

- - - -

If market price were to exceed support price, sellers would put into the domestic market only the amount salable at the export price. If export price dropped below support price, there would be only a small increase in domestic use; little, if any, exportation; and heavy diversion. The support price thus limits domestic sales and may eliminate foreign sales.

Prior to 1939, rice was traded internationally by private individuals through regular markets. The rice trade has since been almost continuously controlled. Rice exports are a major source of revenue and exchange to some nations. Availability of exchange is often as important as relative price in selling rice. These facts are relevant to the international implications of multiple pricing.

World trade is still about one half its prewar volume. Estimated 1954-55 world output is down about 2 per cent from the record of 1953. Our major potential market is the rice deficit areas of Asia. Major competition will come from friendly Asiatic nations.

Outlook

United States rice supply will be at least 60,000,000 sacks unless production controls are invoked. At support prices, about half this amount must either be exported or diverted, or its production must be prevented. There is a long-run potential for American sales in Asia, especially Japan. The Cuban market is stable. If world prices sag much further, we can be priced out of most export outlets. There is no prospect for disastrous breaks or substantial rises in world price. Noncommercial financing of exports can mitigate the effects of support prices. However, at prospective support price levels, continued surpluses may lead to imposition of controls ultimately restricting output to the capacity of the United States market at or about 90 per cent of parity price.

2. Rice and Present Support Programs

Price Provisions

Rice is a basic commodity with mandatory support at 90 per cent of modernized parity for 1954-55; between 82.5 and 90 per cent for 1955-56; and from 75 to 90 per cent thereafter. After 1955, support must be at 90 per cent if the ratio of actual to normal supply does not exceed 102 per cent, dropping one point for each two-point increase in the ratio to a floor of 75 per cent of parity. Use of production controls to restore a "normal" supply situation

might well limit the apparent flexibility of the long-run provisions and might also price rice out of foreign markets. Collateral programs are available to divert surpluses--the recent yen purchases by Japan, for example--and to prevent imports.

Acreage Allotments

The national rice acreage allotment together with carry-over will make a supply that is not less than "normal," which is defined as estimated consumption in the current market year plus estimated exports in the next, plus 10 per cent of the sum for carry-over. Estimated carry-over at the end of the current year is subtracted from normal supply to obtain indicated needed production. This figure divided by normal yield is the national acreage allotment. It is apportioned to states, counties, and farmers mainly according to relative acreage in the preceding five years. Generally speaking, a farmer must comply with allotments to qualify for price support.

Marketing Quotas

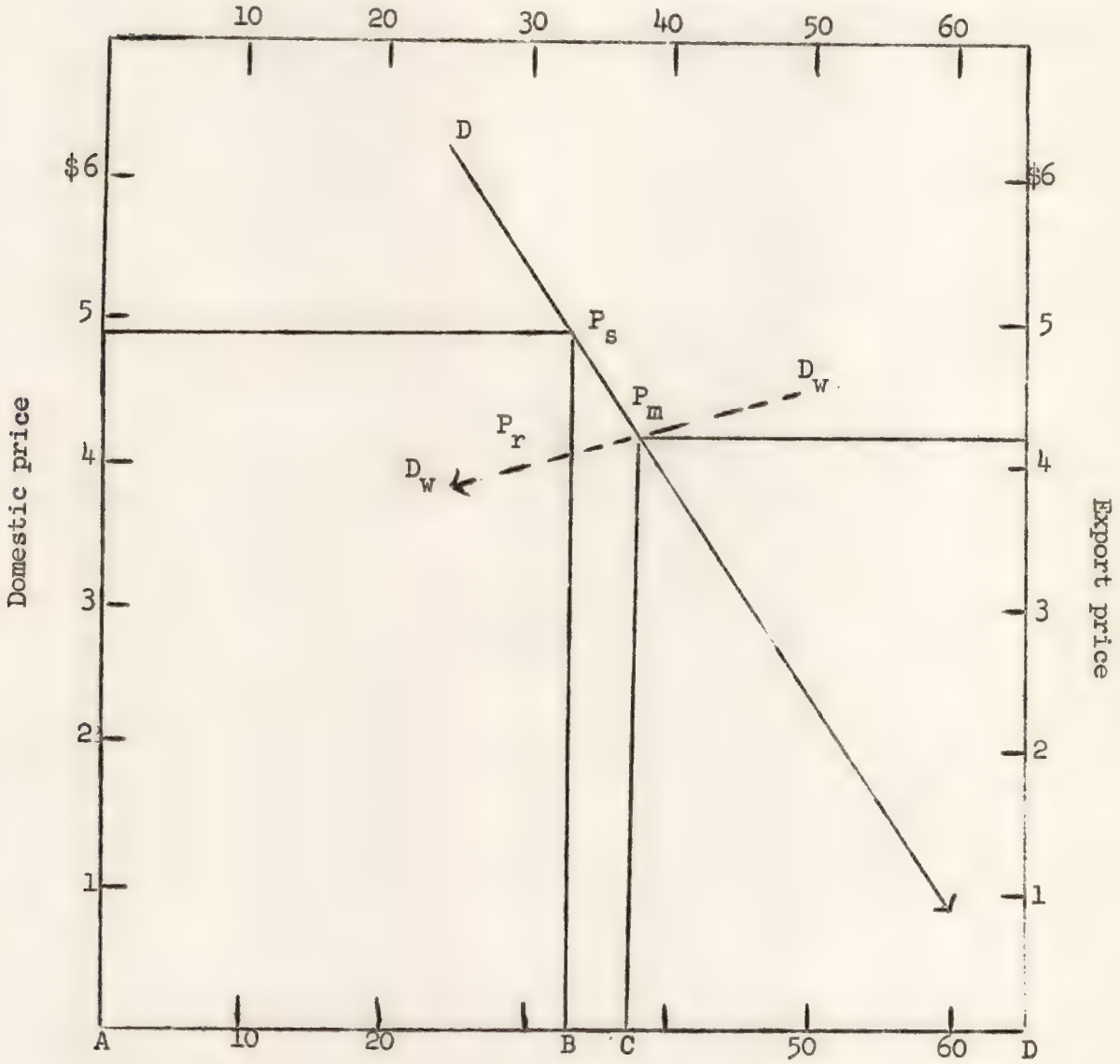
Whenever the total supply exceeds the normal supply by more than 10 per cent, quotas for the next crop must be proclaimed. If more than one third of the farmers voting in a secret referendum held within 30 days disapprove, the quotas are suspended. For practical purposes, the farmer's quota is the quantity produced on his acreage allotment. If the allotment is exceeded, the "farm marketing excess" is subject to a penalty equal to 50 per cent of the parity price. Until the crop is properly stored or delivered, or the penalty paid, it is subject to a lien. Purchasers must pay penalties but may deduct the amount from the price paid growers. Price support to producers in compliance with acreage allotments is reduced to 50 per cent of parity if growers disapprove marketing quotas.

Impact

Many of the attributes of this system and of most of its alternatives may be illustrated in Figure 1. The data and the relationships shown exclude Cuba from the primary market. Inclusion of Cuba would presumably shift the primary demand about 10,800,000 sacks to the right and would lower the secondary demand about as much. The data also apply to domestic use rather than to sales. They thus tend to overstate the size of the domestic market if allotments were issued or subsidy paid only on milled uses in domestic outlets. A total United States supply of 65,000,000 sacks is shown by AD; DD is the domestic demand. At the support price of $4.92, American channels would use

FIGURE 1

United States Rice: Average Annual Farm Prices and Allocation of Annual Supply Under Alternative Price Support Programs



Total annual U.S. supply, million cwts., rough basis

P_s:	$4.92	AD:	65 million cwts.	BC:	4.6 million cwts.
P_m:	4.25	BD:	32	CD:	27.4
P_r:	4.10	AB:	33	AC:	37.6

about 33,000,000 sacks, shown by AB. An approximation of world demand for American rice is shown by $D_w D_w$. If world price, P_m, were well below the support price, P_s, growers would divert up to 32,000,000 sacks at a first cost of $157,000,000. The total supply would be worth about $319,000,000--although this does not allow for costs of support or ineligibility of some growers.

With a free market and an export price of $4.25, about 37,600,000 sacks, shown by AC, would move domestically, and the remainder of 27,400,000 sacks, shown by CD, would move into export. Total supply would be worth about $276,000,000. Farm value and allocation between domestic and export use would vary as shown in Table 1.

Thus, compared with free market conditions and a world price of $4.25, the present support system would result in: prices about 67 cents higher to domestic consumers; a decrease of 4,600,000 sacks in domestic use; diversion up to 32,000,000 sacks; increased returns to growers of about $43,000,000; and likely international difficulties from increased export availabilities and discrimination in pricing and handling of exports by the Commodity Credit Corporation. As of November 15, more than 20 per cent of the southern rice crop had been placed under price support.

However, the Secretary was required to proclaim a national allotment reducing rice acreage by 24.7 per cent below the 1954 figure, or by 11 per cent below the 1950-1954 national average. Marketing quotas have also been proclaimed and approved by growers. If United States exports are seriously limited by price supports, this decrease will be reflected in subsequent definitions of normal supply. As the size of normal supply decreases, control upon acreage will grow more stringent--limited by the apparent 33,000,000 sacks absorbed by all domestic uses at a support price of 90 per cent of parity. The dollar and cents level of rice parity price will decrease only slowly under the present formula. The apparent flexibility of the long-run support provisions may therefore prove illusory.

The present system has virtues--income floors are certain and short-run credit is facilitated. Against this must be considered several deficiencies: neither short- nor long-run income is maximized; government directly enters markets; massive storage is necessary; United States rice cannot be offered continuously in major export markets; trade practices may be distorted; production control may impair adjustments by individuals; international difficulties

TABLE 1

United States Rice: Estimated Allocations of Supply Between Domestic and Export Outlets, Prices, and Gross Farm Returns Under Free Pricing and by Multiple-Price Plans Restricting Domestic Sales to Quantity Salable at 90 Per Cent of Parity Price With No Restriction on Exports and Gross Returns With Direct Subsidy on Unrestricted Domestic Sales

Free market						Multiple price[a]				Subsidy[c]		
World price	Domestic use		Exports		Gross value	Export		Gross value	Difference (9) - (6)	Gross value	Differences	
	Amount	Value	Amount	Value		Price[b]	Value				(11) - (5)	(11) - (9)
1	2	3	4	5	6	7	8	9	10	11	12	13
dollars per hundred-weight	million hundred-weight	million dollars	million hundred-weight	million dollars		dollars per hundred-weight	million dollars					
4.25	37.6	159.8	27.4	116.4	276	4.10	131	293	17	301	25	8
4.00	39.3	157.2	25.7	102.8	260	3.85	123	285	25	296	36	11
3.75	41.0	153.8	24.0	90.0	244	3.60	115	277	33	292	48	15
3.50	42.7	149.4	22.3	78.0	227	3.35	107	269	42	288	61	19

a/ Domestic use would be 33 million sacks, domestic price $4.92 and value $162 million, and exports would be 32 million at any world price level.

b/ Export price elasticity a little less than unity as suggested by interwar analyses.

c/ Free sale in all markets and payment of 90-per cent parity minus average price on domestic sales.

may develop out of price differentials, increased export surpluses, and government handling; costs are high; and government is largely responsible for the program.

Massive loss of markets might be mitigated either by lowering average support levels or by lowering differentials from support price for export types and raising other differentials accordingly to maintain an average of 90 per cent of parity for all types. However, domestic sales would be further decreased by this latter method, and price support for export varieties would be virtually eliminated. The present system offers little opportunity in the short run to keep rice in markets and out of surplus, or in the long run to induce adjustment of output to a profitable level.

3. Standards for Appraisal

Nearly all price-support plans are designed to put a floor under farm income through specification of minimum prices on part or all of the supply. Most plans can be classified under three broad types: (1) diversion, or acquisition by government of that part of the supply which will not move commercially at the target prices; (2) allotment of sales in one or more outlets; and (3) subsidy on all or part of the supply, usually equal to the difference between market and target prices. Some plans involve combinations of these three major devices. All support plans, including those now effective, are ultimately multiple price plans. All programs involve danger of shift of demand to substitutes. All must protect against increased supply of the supported product and of related commodities.

Differences among plans are rooted in differences among: (1) price targets--average levels, differentials among parts of the supply, or relationship to prices of related products; (2) proportions of supply supported at various prices; (3) disposition of surpluses or protection against increase of supply; and (4) administrative procedures.

Feasible plans should share three common attributes of present programs. First, the basic notion of farm support must be accepted. Second, the present system of parity price must be maintained. Third, price support should be achieved through minimum price per unit of output. All programs should therefore provide reasonable basis substantially to increase or to stabilize farm income. The plans must be operationally feasible without placing crippling burdens upon participants. Given these general characteristics, plans should involve minimal measures of: (1) governmental interference with market price

determination; (2) diversion of produced supplies; (3) discontinuity of sale in major outlets; (4) distortion of trade practices; (5) inequities in market access; (6) production control; (7) impairment of enterprise adjustments in procurement, production, and merchandising; (8) inconsistency with other government policies, especially with respect to other commodities or nations; (9) governmental administration consistent with constitutional and statutory limitations and having respect for nonfarm interests and nonfarm policies of government; and (10) cost or inequity in cost distribution.

Alternative programs cannot be scored quantitatively, but appraisal by the above listed standards should provide a reasonable basis for policy.

4. Economic Attributes of Multiple Pricing

Objectives

Multiple price plans are intended to obtain higher gross returns from sale of a given supply by (a) breaking the total supply into subparts and (b) obtaining different net farm prices within those subparts.

Under a "one-price" system, identical units are sold to all consumers and for all uses at the same price. This is illustrated in Figure 1, for a world price of $4.25, and in Table 1 for other world prices. Domestic use increases and gross farm value falls as world price decreases.

With a 90-per cent support price and diversion or allotment, domestic use is about 33,000,000 sacks, and its value is about $162,000,000 regardless of world price level. With a fixed support of $4.92 on the whole supply, the diverted portion is worth about $157,000,000, for a total farm value of about $319,000,000.

With allotment plans, about 32,000,000 sacks are available for export at a price determined by world demand. This is about 4,600,000 more than would so move with free markets. Assuming that this approximate 3-per cent increase in world exports would reduce export price a little more than 3 per cent, the net price for the 32,000,000 sacks exported would be lower than the free-market price for the 27,400,000 sacks which would be exported if there were no domestic allotment. This may be seen by comparison of columns 1 and 7 in Table 1. At present world price levels, these domestic allotment plans would increase farm value of the rice crop by only about $17,000,000 above what would be obtained from the free market. As world price falls, the benefits from these types of plans increase, reaching about $42,000,000 with a world price level of $3.50 per sack.

A third type of plan provides for free movement of the supply into domestic and export outlets at whatever price may be achieved, and payment of a subsidy on the domestic sales equal, per sack, to the difference between $4.92 and the average price realized in both domestic and foreign markets. Here the crop is allocated exactly as it would be under free markets. There is no dumping, no governmental handling of exports, and there are no price differentials. A larger portion of the crop is supported under this plan than under domestic allotment. The portion supported increases as world price falls, and the payment per unit thereon also increases. Thus a differential subsidy paid at the end of the season yields higher gross value for a given supply than does restriction of domestic sales to the amount salable at 90 per cent of parity.

In any one year, therefore, the impact of the alternative methods upon returns may be rated as follows: price support of the whole supply at 90 per cent, differential subsidy on domestic sales, allotment of domestic sales to the quantity salable at 90 per cent, and free markets. At present price levels, multiple price plans would have relatively little effect upon farm returns.

Conditions for Multiple Pricing

Outlets must be separable, with distributive bottlenecks so that separation may be enforced. Demands must differ among outlets so that decreasing sales in one outlet below what would be sold with free markets and increasing sales in the other will yield higher gross value. While it is not technically necessary, it is usually desirable that markets be independent so that changes in sales or prices in one outlet will have no undesirable effects upon level of demand in others. These basic conditions exist in the rice market.

A target price of 90 per cent of parity in domestic markets does not necessarily lead to maximum short-run value for the crop. The total market may also be divided into more than two parts.

Broad Types of Multiple Pricing

The three major methods for multiple pricing may be further explained by reference to Figure 1.

Diversion.--So long as the target or support price is at or below the world price, present types of price support have no effect whatever. Price support bites when P_s, the net support price, exceeds P_m, the price at which world and domestic demands would be equalized. Under these conditions, diversion programs yield, in any year, the highest returns of any plan. They reduce domestic sales, raise domestic prices, increase export volume, and lower

export price if government disposes of surpluses. No data on total supply or on world or domestic demand are needed. Market allotment is unnecessary except through grade or varietal differentials. Production rights must be allotted. A single price for each type of rice confronts growers, so no major enforcement difficulty is involved. Merchandising effort is not necessarily impaired. Production patterns may be distorted from those which would exist with free markets. Costs are highest of any plan. Multiple pricing occurs if government acquires stocks. International complications may be engendered. Legal and administrative issues are well settled.

Allotment.--These plans restrict domestic sales, directly or indirectly, to the volume salable at the 90 per cent of parity target. The remainder can be sold freely in export at whatever price is obtainable. The simplest procedure is to issue certificates to cover the amount AB in Figure 1--33,000,000 sacks--for domestic use. Rice not covered by certificates can be sold in any nondomestic channel. Another way is to attach a fixed value to each of the certificates or to apply a tax to all first sales to millers equal to the fixed value of the certificate, abating the tax on exports. In either event, the value of the tax or the certificate should be equal to P_s minus P_r in Figure 1. This is the difference between the domestic support price of 90 per cent of parity and the export price obtainable for that part of the total supply which cannot be sold domestically at the support price.

The economic effects of the several plans would be identical. Assuming that the United States supply of 65,000,000 sacks could clear in domestic and world markets at $4.25, all plans would reduce domestic use to about 33,000,000 sacks at an average price of $4.92. Exports would be 4,600,000 sacks larger than under free markets, and world price might therefore be expected to drop to about $4.10. The average tax or the value of the certificates would thus be about 82 cents. Domestic use would be worth about $162,000,000, and value of exports would depend on the level of world demand. With a $4.25 world price, these plans would increase farm value of the crop only $17,000,000 over the free-market value.

Differential Subsidy.--Here the total supply would move freely and at the same price in all outlets. At the end of the season, domestic sales--shown by AC in Figure 1--would be estimated, and the ratio of domestic sales to supply would be calculated. The difference between 90 per cent of parity and the market price would be calculated, and each grower would receive this payment per unit on that proportion of his supply equal to the ratio of total domestic

export value if governments threaten oil supplies. No data on total supply or on world or domestic demand are needed. Market efficient to unnecessarily exert through trade or various differentials. Production rights would be allocated. A single price for each type of ride countries prevent, so no major enforcement difficulty is involved. Decontrolling efforts is not necessarily impeded, however, the pressure may be alienated from those which would enter into market. There are dangers of any plan. Multiple existing oceans if governments re-enter ebonds. Unconventional conservations may be encountered. Legal and economic issues are well studied.

Flexibility.--There plans restrict economic gains, illegally or indirectly, to any volume ceilings; the 21 per cent of yearly budget. The consumer can to sell freely in export or whatever price is obtainable. The simplest procedure is to issue certificates to a known dollar amount as in Figure 1--21,000,000 ecoin--to whomever who. Also not covered by certificates can be sold in any nondomestic channel. Profit may it to supply a fixed value o cash of the certificate or to apply a fee to all first sales to nations equal to the value of the certificate, causing the tax an export. In either event, the ratio of the certificate should be equal to P_d where P in Figure 1. This is the difference between the domestic supply price of 20 per cent of yearly and the export price obtainable for what first of the total supply which causes no only domestically at the highest price.

The economic effects of the natural plans would be different. Assuming that the United States supply of 21,000,000 would close in domestic and natural markets at $4.50, oil prices would reduce domestic use by about 12,000,000 barrels at an average rate of $4.25. Imports would be 9,000,000 below levels to about $4.00. The exchange net of the world would be worth $210,000,000 more than $189,000,000. Consumers would pay $210,000,000 more for oil. Producers would receive $189,000,000 less. Governments would gain $21,000,000 over the plans would increase taxes of the drop only $17,000,000 even the

Flexibility.--Here the total supply would move freely and at the same price to all customers. At the end of the season, domestic sales--about 60 in Figure 1--would be satisfied, and the ratio of domestic sales to supply would be calculated. The difference between 20 per cent of yearly and the

sales to total supply. While free of diversion, this plan would yield farm income second in magnitude only to rigid support.

Definition of Markets

Definition and aggregation of submarkets will affect returns from all plans. Total rice supply consists of carry-over, farm production, and imports. Total continental disappearance consists of rice used for civilian food consumption, by cereal manufacturers and brewers, and for seed and feed. These factors, together with territorial sales, which are integrally related to continental markets, constitute domestic use. Exports consist of commercial sales--often financed indirectly by unusual government sources--and explicit government sales or disposition in foreign markets.

Under the present support system, the primary market to growers consists of any outlets in which price equals or exceeds support. The secondary outlet is government storage. Government really serves as intermediary in diverting surpluses into lower priced outlets. It is generally agreed that the primary market under allotment plans should be milled usage in domestic outlets and sales to Cuba if legal means can be found. The secondary market would therefore be all exports in any form to markets other than Cuba.

Domestic and Cuban use together have accounted for about two thirds of sales in recent years. Cuba is tied to the American market by preferential tariff considerations and by reciprocity in sugar preference. In order to accelerate indigenous production of rice, Cuba would probably prefer to be included in the primary market. Maintenance of Cuban prices at the level of the primary market will hasten rice development there and thus ultimately limit or eliminate American sales. However, if Cuba were excluded from the primary market, producers there could obtain price protection through tariffs. The difference between Cuban and world prices would then accrue to the Cuban government rather than to American growers, and rice development would not be retarded. However, great care would be required to assure that inclusion of Cuba in the protected market met constitutional and statutory requirements. It would be easily possible to include Cuba in the domestic market under a subsidy plan.

Market definition would of course differ if price supports were maintained by the present methods.

Price Targets

Price goals in various markets should be governed by consistency with statutes, returns to growers, trade practices, and administrative feasibility.

Under the present system, average prices are set by statutory standards, although grade and varietal differentials depend upon administrative judgment. With "flexible" supports, price targets depend upon the ratio of actual and normal supplies as defined by law.

Price targets should be set early and firmly enough to guide production and marketing decisions. Standards governing target price determination should be defined by law. Differentials from average target prices would be necessary if government purchase were part of the support plan. Since allotment and subsidy plans support primary outlets only, a target of 100 per cent of parity might be justified. Of the two plans, there is less basis for a 100-per cent target with the subsidy method since primary sales are larger than under allotment plans. Grower returns would be maximized by a percentage-of-parity target only by sheer accident. Price floors for secondary markets could be justified only at distress levels if these plans are to be distinguished from present programs.

Other Commodities

There is no evidence that multiple pricing of rice, which is used almost entirely for human consumption, would adversely affect domestic feed markets or lead to exportation to the United States of processed products fabricated from low-priced exports of United States raw materials. Rice now has no close substitutes in the United States market, but long-run maintenance of higher prices might induce shifts. Rice probably competes for use of land against feed grains, pasture, and perhaps soybeans and cotton in some areas. Two-price plans would mean lower average prices than 90-per cent support and therefore some possible release of land to competing products. However, such acreage would perhaps be less than would result from maintenance of high supports with imposition of production controls. Rice differs, at least in economic attributes, from other American commodities to which multiple pricing might be applied.

Other Nations

In general, two-price plans involve less burden on domestic rice users and less subsidy of foreigners than does the present system. Rice-importing nations may prefer to see an increase in exportable supplies and lower prices from multiple pricing. Export nations object to price differentials, governmental selling, and especially to increased export availabilities. The Burmese government has already reacted vigorously to United States rice-selling policies.

All allotment plans increase United States export availabilities--with an assumed world price of $4.25 and a United States supply of 65,000,000 sacks--by about 4,600,000 sacks. This is about a 3-per cent increase in trade which could well lead to a somewhat larger decline in world price. The subsidy plan does not involve increase in United States exports, price differentials, or governmental handling. The allotment plans in general do not involve large-scale export by government.

Increase in export availabilities under allotment plans might be avoided by production quotas designed to limit United States output to domestic requirements at support price plus some historical export volume. The same result might be achieved by allotting domestic and export sales and requiring diversion of excess supplies to feed. In this case, farm income would be increased over free-market returns by less than $1,000,000.

With widespread bloc trading and barter of rice, classical definition or analysis of dumping is impossible. There are risks of countervailing or anti-dumping duties by importers and perhaps more aggressive use of dumping methods by exporters as a result of multiple pricing. These risks should be no greater than those created by the present system which, incidentally, provides an umbrella over competing rice exporters. The subsidy method of multiple pricing is entirely free of any rational basis for allegations of dumping.

Long-Run Status

The dangers of shifting demand and a corresponding supply response have been noted. Any successful support program tends to perpetuate itself. All such programs distort production patterns. The subsidy method has least effect upon distribution patterns. Failure alone appears to be the only sure method of avoiding long-run fastening of support systems upon an industry.

5. Operating Attributes of Multiple Pricing

Errors of Estimate

Diversion programs require no advance estimates of domestic or world demand or of total supply, except for the purpose of production control. No advance data are needed for the differential subsidy method. For the market-value certificate method, only the domestic demand at or about the target price level need be known. The fixed-value certificate or tax methods require advance estimates of domestic and world demand and of total United States supply. Such estimates are difficult to make.

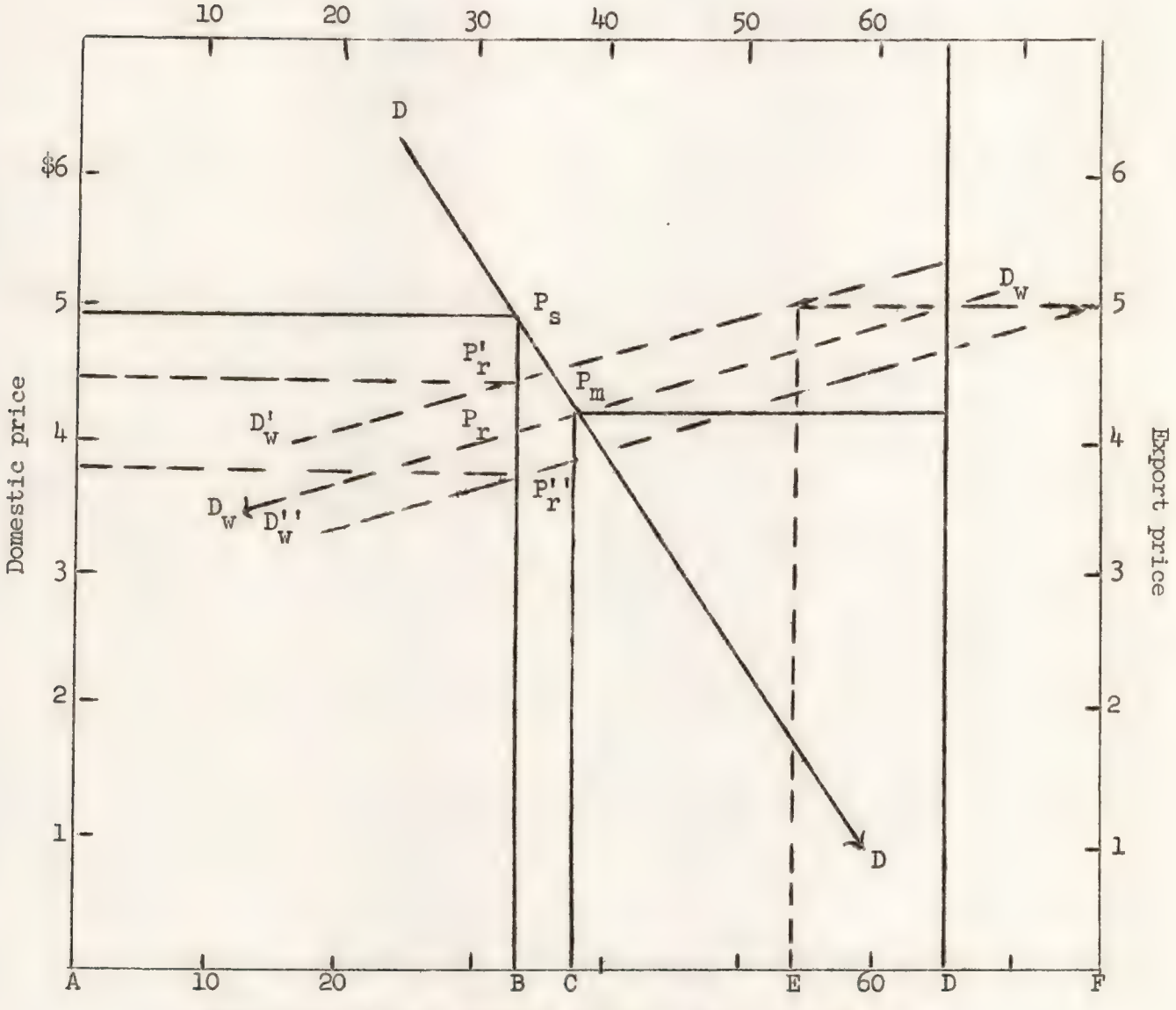
Any significant flaw in any of these assumptions would affect the conclusions.

Allotment plans would require buffer stock operations. With the market-value certificate, if the quantity AB were set too small, release of stocks from the Commodity Credit Croporation at the target price would correct the error. If the certificated quantity AB were set too large, then the Commodity Credit Corporation would need only to offer to buy rice and certificates at the target price in order to induce sufficient deliveries to raise domestic price to the target level. With the fixed-value certificate, error in specifying the differential between target and market price would require far heavier buffer operations with the kinds of demands assumed here. Thus, suppose the announced differential were too small--as for instance P_s minus P_r' in Figure 2 instead of the exact amount, P_s minus P_r. To correct for this error, the Commodity Credit Corporation would have to take off sufficient stocks from the secondary market to raise the effective secondary demand as shown so that the secondary volume could clear at the price P_r' instead of P_r. If the differential were set too large, as P_s minus P_r'' in Figure 2, then the Commodity Credit Corporation would have to lower the effective secondary demand by releasing stocks to the extent of DF. Thus, large buffer stocks would be needed, but there would be no necessity for perennial accumulation.

With a purchase tax plan, there would be no limitation upon the amount used in the domestic market. The allotment basis to growers would involve allocation according to percentage of current production and a blended price. If the tax were set too large--as for example at P_s minus P_r'' in Figure 2--then domestic use would be somewhat less than AB and the selling price would be higher than P_s. This would occur because private traders would equalize the net prices in secondary and primary markets minus the tax. If the tax were set too low, sales would exceed AB, and realized domestic price would be less than the target. The fixed-value plan sets both the domestic quantity AB and the differential P_s minus P_r, and there is commitment also to maintain the support price P_s. If P_s and AB are raintained, then error in specifying the fixed value of the certificate can be corrected only by raising the secondary demand when the differential is too small and lowering it when the differential is too high. Since the tax plan does not set the domestic quantity in advance, error could be corrected merely by offers of the Commodity Credit Corporation to buy or sell at the current target price in the domestic market. Thus far heavier buffer operations would be needed under the fixed-value plan than under the tax plan. There is, of course, no necessity to specify in advance the total domestic allotment as well

FIGURE 2

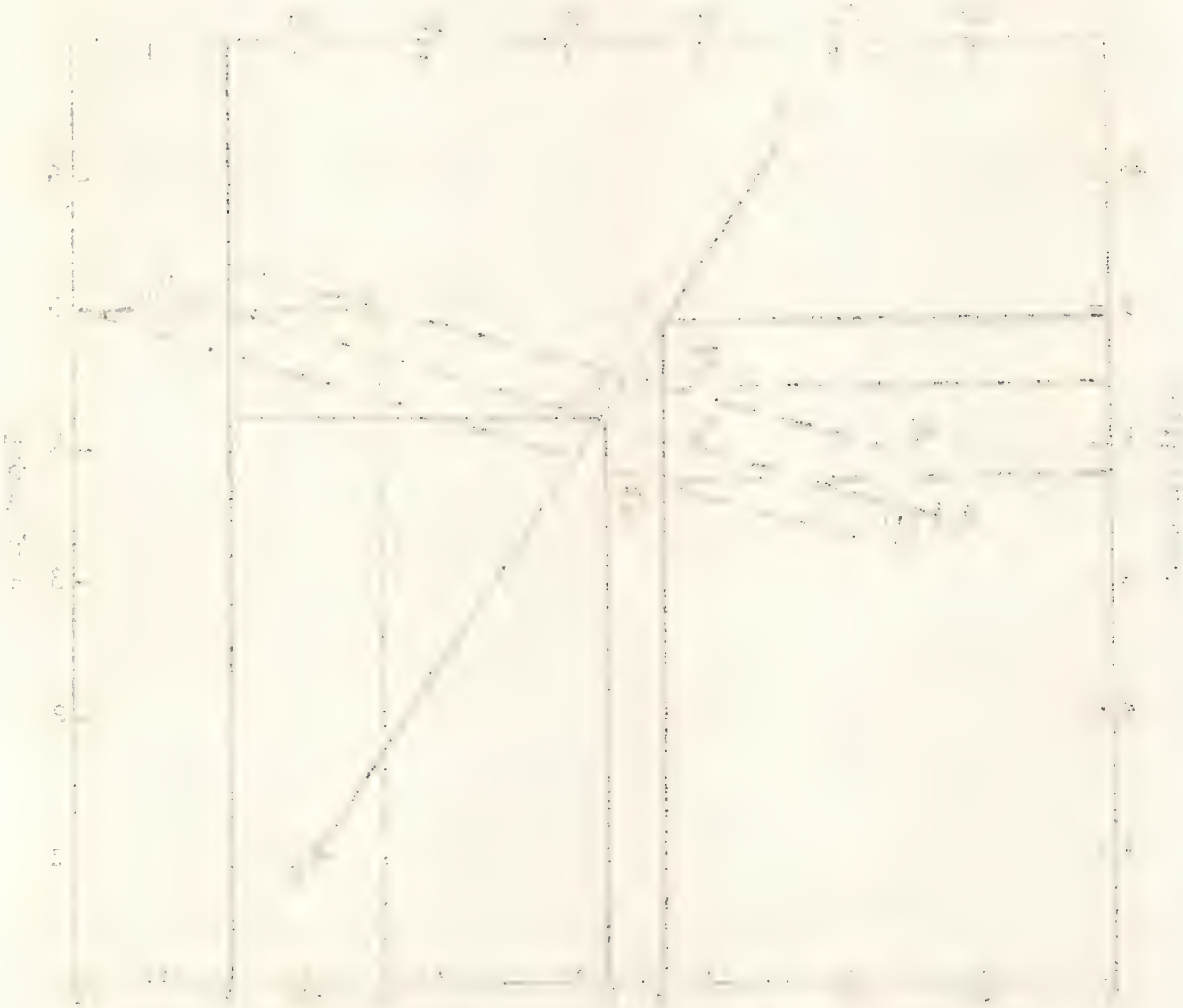
United States Rice: Average Annual Farm Prices and Allocation of Annual Supply Under Alternative Price-Support Programs--Buffer Stock Operations



Total annual U.S. supply, million cwts., rough basis

DE: 11 million cwts.

DF: 11



as the certificate value. Specification of the fixed value only would make these two plans identical except for the nominal self-financing element of the tax plan.

Allotments and Equities

Under diversion programs, production alone need be allotted. Under a direct subsidy system, there is no need for formal allotment of production or marketing rights. Allotment plans, by definition, require allocation of market access. With allotment according to base-period percentage of production, the average price for the crop of an individual would be determined by his production in excess of domestic allotment. Low-cost producers would probably expand output well beyond domestic quota. With allotment determined according to percentage of current production--as would effectively be done with a subsidy--the proportion of primary sales to total sales would be calculated, and each producer would receive the subsidy on that part of his crop. Freezing of production patterns is avoided with this plan, but downward adjustment of total output may be retarded.

Allotment of sales rights in primary channels on the basis of either past or current sales therein could be administered only through processors, since growers do not know the disposition of their product. It would virtually eliminate those areas with export varieties from the benefits of price support. It therefore seems clear that in any allotment plan, primary market rights must be apportioned on the basis of relative base-period production rather than on relative sales in primary channels. This would therefore require administrative provision for trading in allotments.

Where products are not homogeneous, equity is generally taken to mean reasonably equal costs and benefits per unit of output. Relative sales in primary outlets are clearly inoperable. The past-production allotment basis might create major inequities only in those cases in which costs of the program were assessed on a relative production basis and premiums were paid for exports. Long experience with allotment of selling rights in specialty crops indicates that where output is not homogeneous, production bases for allotment involve fewer inequities than do current sales bases.

Handling of carry-over and of imports in allotments will be difficult, at least in the first year. Standards for allotments should include reasonable reference to interests of handlers and processors, which are not always the same as those of growers. While no other plan achieves equity by all standards, the past-production basis should be the most workable and least inequitable.

as the separation ratio. Specification of this ratio value only would make the plant construction easier for the manual self-commuting elements of the two plants.

Conclusion and Outlook:

[illegible] diversion procedure should be effected. There e[illegible] [illegible] of security reasons it is to send the final effluents of [illegible] [illegible] [illegible]

Distribution of Benefits and Burdens

With a diversion system and 90-per cent support, consumers obtain 4,600,000 fewer sacks of rice at $2,000,000 greater cost than with free pricing. In addition, as taxpayers, they must provide $157,000,000 for first costs of support if the whole surplus is diverted. As price supports are lowered and production controls are applied, the cost of smaller consumption, higher domestic price, and diversion decreases. Except for the effects of grade or varietal differentials and of eligibility for storage or purchase agreements, there appears to be no serious discrimination in benefits accruing to producers.

With a subsidy plan--and an implicit distribution of benefits on a current-production allotment basis--growers share according to their relative outputs in the current year. Costs are paid by taxpayers. With a market-value certificate, costs are borne exclusively by rice consumers. The fixed-cost certificate and tax proposals presumably would be financed by taxes, with direct payment from the Treasury, but costs are, in fact, saddled on domestic rice consumers.

It is difficult to compare costs. Except for the subsidy plan, part of the cost of operation is reflected in smaller domestic consumption at higher prices. Further, first costs of diversion alone can be computed, and part of such costs may be recovered in disposition of surpluses. Other indirect costs, such as possible depression of demand by heavy government stocks or outlays for holding stocks, cannot easily be estimated. Within these limits (excluding Cuba and assuming a $4.25 world price), money outlays may be compared against free-market adjustments as follows: (1) 90-per cent diversion--$2,000,000 higher consumer outlay in United States, $41,000,000 greater outlay from Treasury on diversion than would be obtained from free exports; (2) direct subsidy--no change from free-market allocation or realized prices, direct subsidy of $25,000,000; (3) market-value allotment certificate--United States consumers pay $2,000,000 more for smaller domestic supply, export buyers pay $15,000,000 more for a larger supply, net cost increase of $17,000,000; (4) tax or fixed-value certifications as in (3). Thus allotment plans under present conditions would obtain the major part of increased revenue from greater foreign sales. The subsidy plan spreads the total income increase over the general public. The diversion plans place cost on United States consumers and taxpayers alike. Net increases are of small order except for subsidy and high-level diversion plans.

Administrative Procedures

Diversion plans can be effected through settled administrative procedures and without legal or constitutional issues. Very much the same devices could be

used for a market-value certificate plan in which the major administrative issues would be determination of total domestic allotment and its allocation among growers. Much more complex procedures would be required for fixed-value or tax plans, especially if error were made in determining subsidy or tax in advance of the season. The subsidy plan would be self-administering since data for payment would be acquired through the applications of growers.

Enforcement

Wherever small-scale sellers face a two-price system, there is temptation (a) to overship the restricted outlets in the belief that their own small sales would have no effect on prices, and (b) to buy in the low-priced market for resale in the higher priced outlet. Therefore, any successful two-price plan bears the seed of its own failure, and failure can be prevented only by enforcement of market segregation by government. Industry administration of multiple-price plans on a voluntary basis would probably be unconstitutional and almost surely unsuccessful.

Enforcement of allotments can be achieved in a variety of ways, each of which would affect different groups differently. With diversion plans, individual growers are faced with a single price if support levels exceed market levels. Similarly, no price differentials would face growers under a subsidy plan. Under the allotment plans, each sack of rice of a given quality would in fact carry the same price, shown by P_r in Figure 1. The differential would therefore represent the value of the certificate authorizing access to the restricted domestic market. Thus any of these methods should limit opportunity for growers to violate allotments.

Where the domestic market is restricted, limitation may be administered in four broad ways: (1) a premium may be paid for sale within allotment in the protected market; (2) a penalty may be exacted for overallotment sale in the limited outlets; (3) a premium may be paid for disposition in the open market; or (4) a penalty may be exacted for failure to dispose in the free market. The basic issue really is whether handlers shall be penalized for not disposing of rice in export rather than for overselling the domestic channel. The former arrangement would be heartily approved by those handlers who promote exports only.

6. Evaluation of Alternative Plans

Increased Flexibility in Present System

Description.--Flexibility might be increased by (a) sliding scales; (b) options between specified combinations of support price and production control

5. Evaluation of Alternative Plans

Treasury view.--Flexibility might be increased by (a) selling certain options between specified combinations of support price and transaction costs

by growers; and (c) alteration of grade and varietal differentials at given percentages of parity.

Analysis.--If price support is to raise farm income above the level obtainable without a program, the average level of price support must of course be above the average free-market price. This would mean, then, that the range for price support under present conditions would be somewhere between P_s and P_m, or between $4.92 and $4.25.

American supplies might now clear into foreign and domestic markets at an average price in the range of 75 per cent of parity. If world price fell below that level, support price could not follow it down under any circumstances. Therefore, supplies would be about 27,000,000 sacks larger than domestic markets could absorb. Production would have to be cut back to about 37,000,000 sacks--the capacity of the domestic market at 75 per cent of parity. There would be even less range for flexibility if the price target were set at 90 per cent--although the market capacity increases only 4,600,000 sacks at the most as price falls from 90 to 75 per cent. Present flexible support provisions therefore set a limit on production at about 37,000,000 sacks if world price sags below 75 per cent of parity, and at about 33,000,000 sacks if a 90-per cent target is sought.

Again, there would seem to be little opportunity for unrestricted production by giving options between combinations of support price level and production quotas or allotments. The domestic demand for rice is inelastic for large quantities. Therefore domestic consumption would not increase proportionately as price fell. Unless government is willing indefinitely to undertake storage operations, rice prices cannot be supported at levels above the average world price without large-scale lowering of production.

Differentials below the United States average parity price for types of rice in export demand could be lowered as world demand fell. This would force these types of rice into export instead of into support. Differentials for other types would have to be raised enough to obtain an average of 90 per cent on the whole supply. This would constrict domestic utilization. Moreover, this device would confine benefits to growers of types used in domestic channels.

Appraisal.--Rigid 90 per cent of parity support will eliminate exports and may ultimately lead to a near 50-per cent reduction in supply. The range for meaningful flexibility in the relationship of support price and production allotment consistent with avoidance of heavy stocks or heavy production cutbacks is very narrow--about 70 cents in price and about 4,600,000 hundredweight in output. Agreement by growers to accept an average price of 72 per cent of parity

by grower; and (c) attraction of grade and varietal differentials by grower percentage of variety.

Graphic.--If price support is to raise farm income above the level obtainable without a program, the average level of price support must be above the average free-market price. This would mean, then, that the range for price support under present conditions would be somewhere between P_1^s and P_4^s, or [illegible].

Americans supplies might now enter into foreign and domestic markets at an average price in the range of 15 per cent of parity. If world price fell below that level, support price would follow it down under any circumstances. Therefore, supplies would be about 27,000,000 bales instead of 22,000,000 as they could absorb. Farm price would have to be cut back to about 37,000,000 equivalent the capacity of the domestic market at 75 per cent of parity. There would be even more room for flexibility if the price target were set at 90 per cent--although the market ordinarily increased only 4,500,000 bales at the most as price fell from 90 to 75 per cent. Inverse flexible support provisions therefore set a limit on production at about 32,500,000 bales if world price were below 75 per cent of parity, but at about 33,000,000 bales if a 3/-per cent target is sought.

Again, there would seem to be little opportunity for unrecognized reduction of rising returns between combinations of export price level and production. The domestic demand for price is inelastic for large quantities or shortages. The domestic demand for price is unelastic for large quantities. Therefore domestic consumption would not increase proportionately as price fell. Under government is willing indefinitely to underwrite storage charges without large-scale increase of production.

Differentials below the United States average penalty price for types of price in export demand could be incurred as world demand fell. This would force these types of price into export instead of into consumption. Differentials for other types would have to be reduced enough to obtain an average of 75 per cent on the whole crop. This would counteract erosions utilization. Moreover, this device would combine benefit to growers of types used in domestic channels.

Adjusting.--Until 75 per cent or parity support will eliminate exports and may ultimately lead to a four 50-lex cent reduction in supply. The range for manipulative flexibility in the relationship of support price and production adjustment combined with avoidance of heavy storage or penalty production without increase in price and about 4,000,000 bales in one-year reserve--about 75 cents in the dollar.

would still require acquisition by government of almost 40 per cent of supply or its elimination by production controls. If growers agreed to accept 65 per cent of parity, and the export market were somewhat lower, more than 20,000,000 sacks would go to support or be eliminated by production controls. Adjustment of differentials will expand exports as world prices decline, but it will also increase storage of domestic types and will, in effect, deprive producers of export types of price support. At best, this device is limited in applicability.

This conclusion seems supported: there is no way by which restriction of output or government storage on massive scales can be avoided through a mandatory price-support system which actually supports the price of rice. If it is desired to maintain income by some method other than government storage or production control, then some device other than the present type of support must be used.

Flexibility could be achieved within the present type of support if it were possible to: (1) remove rice from the basic list; (2) free the Secretary from the rigid standards governing price support and production control; (3) authorize him to acquire surpluses only in years in which free-market prices are at disaster levels; (4) but preclude him from undertaking the continuing storage that will be necessary if any meaningful level of parity price is maintained for growers.

Market-Value Certificates

Description.--Primary market, shown by DD in Figure 1, consists of all domestic milled uses. Secondary market includes all export uses. Price targets are 90 per cent of parity in primary outlets with market determination in secondary channels. Certificates would be issued to growers on a relative past-production basis sufficient in total to cover domestic milled use at target price, shown by AB. Endorsed certificates would be negotiable. Processors would have to cover all primary sales with certificates. Growers of export types would sell certificates to growers or handlers of domestic types. The value of a certificate would approximate the difference between target price, P_s, and world price, P_r, for the remainder of the crop not salable domestically at target price. If world demand fell, the certificate value would increase, and vice versa if world demand rose. It is necessary only to estimate domestic demand, DD, at or about target price. Since error is possible or likely in that estimate, buffer stock operations would be necessary. If AB were too small, or United States or world demand rose, then the value of rice plus the domestic certificate would exceed target price, with the reverse if AB were too large or United States or world demand fell. In

the latter case, purchase of rice plus certificates by the Commodity Credit Corporation would result in approximate attainment of the target price. Sales of rice and certificates would prevent undue shorting of domestic outlets. Grade-variety differentials and amendment to authorize sale of rice and certificates would be needed if target price were exceeded.

Analysis.--Compared with a free-market adjustment and an assumed world price of $4.25, the following differences appear: domestic price, including certificate value, is raised about 67 cents; export price is dropped about 15 cents; price differential and equilibrium value of certificates are 82 cents; value of domestic allotment of AB, or 33,000,000 sacks, is $162,000,000--$2,000,000 higher than free-market expenditure on a 4,600,000-sack larger supply at lower price of $4.25; increase of $15,000,000 in value of exports; total increase of $17,000,000, or about 6 per cent, in gross farm value; net and percentage increase in farm value at alternative levels of world price--$4.00: $25,000,000, or 9.6 percent; $3.75: $33,000,000, or 13.5 per cent; $3.50: $42,000,000, or 18.5 per cent; comparison with subsidy at same world prices, farm income is lower by $8,000,000, $11,000,000, $15,000,000, and $19,000,000. National domestic allotment would be proclaimed yearly, apportioned on a historical basis of relative production much as now. There would be no pressing necessity for a price floor. Much less storage difficulty would be encountered than with the present system.

Appraisal.--Only a minor increase in farm value would occur. This plan is less efficient than subsidy. There would be a shift in domestic and export price levels and in allocation to both outlets as a result of intervention. No diversion would be required except for buffer stock operation incident to error in estimate of domestic demand. Producers could be assured of a domestic price target. Domestic allotment could be adjusted yearly to prevent stock accumulation. Equity difficulty would be almost inevitable since a proportionate share of benefit would not be obtainable exactly from any allotment base. This plan would provide the least difficulty from allotment on relative past-production basis. The need for differentials and mechanism for trading certificates leads to cumbersome administrative procedures. The plan presents no necessary impediment to purchase by handlers of desired types and qualities. Production control would not be necessary unless induced by output expansion of low-cost producers or by dumping charges. There would be a tendency to freeze production patterns and to capitalize value of allotments. Considerable interference with internal operation of merchandisers would result--for example, coverage of all sales by certificates, proof of export of uncertificated sales, or trading of

certificates--which might become a precedent for other commodities. This plan is open to dumping charges on two grounds only: export supply up by 4,600,000 sacks, and spread between United States and world price widened with a possibility for international retaliation. Administrative and buffer stock costs only would be met by government. The plan would require about the same type of administration as now to issue allotments and check coverage of domestic sales. Costs would come mainly from export markets, but $2,000,000 higher outlay would be required for 4,600,000 sacks smaller domestic supply. The domestic cost burden would rest solely on rice consumers. The plan would be government enforced but with government in a minor role. Government must assure acquisition of certificates to cover domestic sales and prevent leakage.

Comparisons.--This plan is exactly like the processing tax and fixed-value certificate in its economic effects--relative prices, returns, and allocations. It differs in administrative procedures and in consequences of error in estimates but seems easier, both administratively and for correcting error, than do other allotment plans. It is less efficient than subsidy and results in more complex and more violent interference with domestic and international markets. While it is the best of allotment plans, it is inferior to subsidy on economic grounds.

The proposed plan for issuance of marketing cards to growers, showing their primary market quotas, would avoid the necessity for organized trading of certificates. In other respects, the effects of the plan appear to be very similar to the market-value allotment plan.

Fixed-Value Certificates

Description.--The primary market definition, AB, and price target, P_s, are exactly as in the market-value certificate plan. In advance of season, the government would need (a) to issue domestic allotments equal to AB in Figure 1, the amount at which domestic target price would be achieved; and (b) to set certificate value equal to P_s minus P_r in Figure 1, or the difference between domestic target price and export price yielded by the remainder of United States supply not salable at domestic target price. Domestic certificates would be issued on a historical relative-production basis. The plan would require trading of fixed-value certificates and would need estimates of United States supply, primary market-demand function, and world demand for United States exports for accurate determination of certificate value. A much greater chance for error is inherent in this plan than in the market-value plan. Adjustment of certificate value could be made over the years, but short-run inequities would result. Millers would buy certificates from the government at fixed value with funds allotted to growers

at end of season on a relative production base; or certificates could be issued directly to growers at beginning of the season. The certificates would be negotiable, with government prepared to buy them back from growers. Progress payments could be issued, equal to a fraction of certificate value, at beginning of the season to facilitate producer financing. Buffer stock operation by the Commodity Credit Croporation could compensate for error in setting certificate value. In event the value were set too low, as P_s minus P_r' in Figure 2, then by buying up stock equal to ED, the Commodity Credit Corporation could raise secondary demand enough to achieve target price P_s. If the value were set too high, as P_s minus P_r'' in Figure 2, then the Commodity Credit Corporation could effectively lower secondary demand to achieve realization of P_s by selling stocks in secondary market equal to DF in Figure 2. Such an arrangement is the most difficult adjustment and likely would have international repercussions, but it is the only alternative to long-run average achievement of target price.

Analysis.--Assuming no error in estimates in either case, the price, gross value, and allocation effects of this plan are identical with the market-value plan.

Appraisal.--The market-value plan obtains the increased revenue from the domestic market merely by shorting supply and obtaining a higher price. This one obtains the increase by a direct subsidy from government equal to the certificate value multiplied by the number of sacks salable domestically at the target price. It is a larger subsidy per unit than that paid under the direct differential subsidy described below, but it is paid on a smaller supply. It also creates exactly the same disequilibrium between world and domestic price and allocation as does the market-value plan--which the direct subsidy does not. This plan could differ from the market-value certificate in one other respect--the sources of the net gain of $17,000,000, assuming world price of $4.25, total United States supply of 65,000,000 sacks, and the prescribed United States domestic demand. Here American consumers would pay $4.10 per sack for 33,000,000 sacks, a total of $135,000,000. Government would make up the difference by paying out $27,000,000 as certificate value. Export of 33,000,000 sacks at $4.10 would yield gross farm value of $131,000,000 for a total of $293,000,000. Thus, to raise farm income by $17,000,000, government would pay out $27,000,000.

The alternative would be to require millers to buy these certificates at a price of 82 cents under our assumptions. Presumably they would pass this cost on. In this event, consumers would finance this plan in exactly the same way as the market-value certificate. This alternative is, in effect, the purchase tax plan.

All other comments applicable to the market-value plan appear to be relevant here.

Comparisons.--The certificate plan is exactly like all allotment plans in its economic effects but is much more difficult to administer. Serious consequences could result from errors of estimate. It is a difficult method to finance--either through issue of guaranteed-value certificates by government, with readiness to redeem, or by sale of fixed-value certificates to processors. If allotment plans must be used to acquire the relatively small gains obtainable, this plan seems to be among the least desirable.

Processing Tax Plan

Description.--Prior to the season, the tax per unit on all sales, equal to P_s minus P_r in Figure 1, would be announced. The same data would be required as for the fixed-value plan. The first buyer would have to obtain a certificate for each hundredweight, evidencing payment of a tax equal to the specified differential. Upon proof of export, the tax would be rebated on those units. The producer would receive a stub for each hundredweight sold, worth the tax multiplied by the percentage of the total supply moved in the primary channel. Thus, allotment is on the blended price, or current percentage of current output, basis. Unlike the fixed-value plan, it is unnecessary with this plan to set the total domestic-sales allotment in advance.

Presumably the proceeds from sale of tax certificates to processors would go into the Treasury. Presumably the payments to producers for their stubs would come from appropriations or standing funds. Presumably the two streams of money would balance each other over the long run. However, processors would pass on the tax on domestic sales, and their outlay for tax certificates would be equal to costs of the tax to consumers.

Appraisal.--This plan differs from the fixed-value plan only in (1) the methods of financing--largely a superficial difference; (2) the blended-price or current-production basis for allotment of tax proceeds among growers; and (3) the absence of limitation upon domestic sales except through play of the market. The second difference would have less tendency to freeze old production rights but might ultimately lead to pressure for production control as low-cost producers expanded output and high-cost operators tended to remain at about the level of output represented by their share in the domestic market. The third difference means that the effects of errors of estimation or administration are of much less significance. The nominal self-financing feature might be politically attractive. Other attributes of this plan are identical with those of

the market-value and fixed-value certificate plans. Inclusion of Cuba in this plan would lead to serious legal issues. This plan seems superior to the fixed-value certificate plan but far more cumbersome than the market-value plan. The small gains in returns yielded from any of these three forms of allotment plans cast considerable doubt upon the desirability of undertaking them.

Double Certification or Production Control

Description.--Growers would be given certificates for their share in AB, or total domestic sales in Figure 1, and in CD, or the total United States exports which would be expected without a control program. Producers would be required to dispose of uncertificated rice in such outlets as feed. Presumably they would be induced to reduce production to the level at which the quantity BC was eliminated. Production quotas would be designed to do the same thing. Allotment plans invariably involve increase in export availabilities if the basic conditions for multiple pricing exist. Domestic price is raised above export price. Charges of dumping are likely to rise. Elimination of BC removes one of the bases for this charge.

Analysis.--Under present conditions, allotment plans fortified by double certification or by production controls would yield an excess over farm value obtainable with no program of less than $1,000,000.

Appraisal.--The small increase in net returns obtainable by these devices seems hardly worth the obvious administrative complexity.

Set-Aside Proposals

Description.--After estimation of total crop and United States domestic demand, a salable percentage would be announced. Each processor would be required to have on hand or to have exported a percentage of rice he had received, equal to the salable percentage subtracted from 100.

Analysis.--In terms of economic effects, this plan would be identical with the other allotment plans.

Appraisal.--Similar plans have worked most effectively in multiple pricing of commodities which are perennials and which are highly homogeneous. Since there are wide differences in utilization of different types of rice, it would be necessary either to issue and trade certificates or to trade rice to the account of millers. This would resolve the proposal into the market-value certificate plan.

Differential Subsidy Method

Description.--Under this method, free pricing and allocation of crop prevail in all outlets. It involves definition of primary market and calculation at the end of season of percentage of total supply disposed of in primary channels. Average realized price would be determined in all outlets, as would difference between average target price for all types of rice and average market price realized for all types of rice in all outlets. Payment would be made to the grower of differential on the same percentage of his crop as the ratio of total United States primary use to total United States supply. Thus, in Figure 1, with world price at $4.25 in all outlets, 37,600,000 sacks would be used domestically, or 57 per cent of the total supply, and a differential of 67 cents. Therefore, total subsidy would stand at $25,000,000. Upon presentation of proof of sale in any outlet, each grower would then be paid 67 cents per sack on 57 per cent of his sales in defined channels. Advance grants of smaller percentage could be made if desired, although this would involve a heavy administrative load. With this method, there is no allotment; no production control; no grade differentials; no purchase or trading in certificates; and no stock acquisition.

Analysis.--Market definitions and price target in domestic market are the same as in allotment plans, but this method differs from those plans in all other respects. At any world price level, differential subsidy would result in highest total returns of any plan considered which avoids heavy diversion or production control. This is efficient subsidy in the sense that exact outlay by government goes to farmers as an increase in income. Total cost is equal to total subsidy. No cost effect results from smaller consumption or higher prices in the domestic market. No advance-of-season data are required. Buffer stock operations from error in estimates are not needed. There is no difference between relative prices or market allocation and free-market condition; no basis for dumping charges; and no impairment of individual effort to sell at maximum private return net of subsidy.

Appraisal.--In general, this is the most effective of the proposals considered to maintain farm income and also avoid either massive storage or production control. It offers the highest returns to farmers--most effective in countering falling world price level. It requires no government interference with relative prices and therefore has no effect on market allocation. No diversion is required for buffer operation since there is no advance determination of differential. This plan involves no interference with trade practice and no inequity in market access since it places no restraints on market allocation. Except for possible long-run

pressure for limitation by high-cost producers, there is no production control. Since allotment is on current percentage of current total production basis, low-cost producers might expand production, thereby reducing percentage of crop turned out by high-cost operators and their percentage claim upon subsidy. Enterprise policy is not impaired since the flat per-unit subsidy paid has no effect on incentive to obtain factors most cheaply, on production processes, or on efforts to maximize returns from selling. Such a plan might, however, provide dangerous precedent for extension to other commodities. No reasonable basis for offense to other nations is contained in this plan since export price and volume are exactly what they would be without the program. This method is probably less of an administrative burden on government than is any other plan. Cost is exactly equal to subsidy, is identifiable as such, and is taken from the Treasury rather than from particular groups using rice. If rice growers are unwilling to take their chances in the free market, this seems the most desirable method, among plans considered here, for stabilization of income.

7. Inclusion of Cuba

Legal and administrative issues bearing on this problem have already been stressed. The economic effects of the inclusion of Cuba may be appraised within the simple analytical frame used here if two assumptions are made: (1) that inclusion of Cuba in the primary market effectively adds 10,800,000 sacks, rough basis, to the primary market demand; and (2) that the same quantity is deducted from the secondary demand. These assumptions cannot be tested, but they are reasonable because nearly 100 per cent of Cuban rice imports are from the United States. Inclusion of Cuba is relevant only to the allotment and the subsidy plans. The subsidy plan would provide no easy means to hold up the Cuban price of American rice.

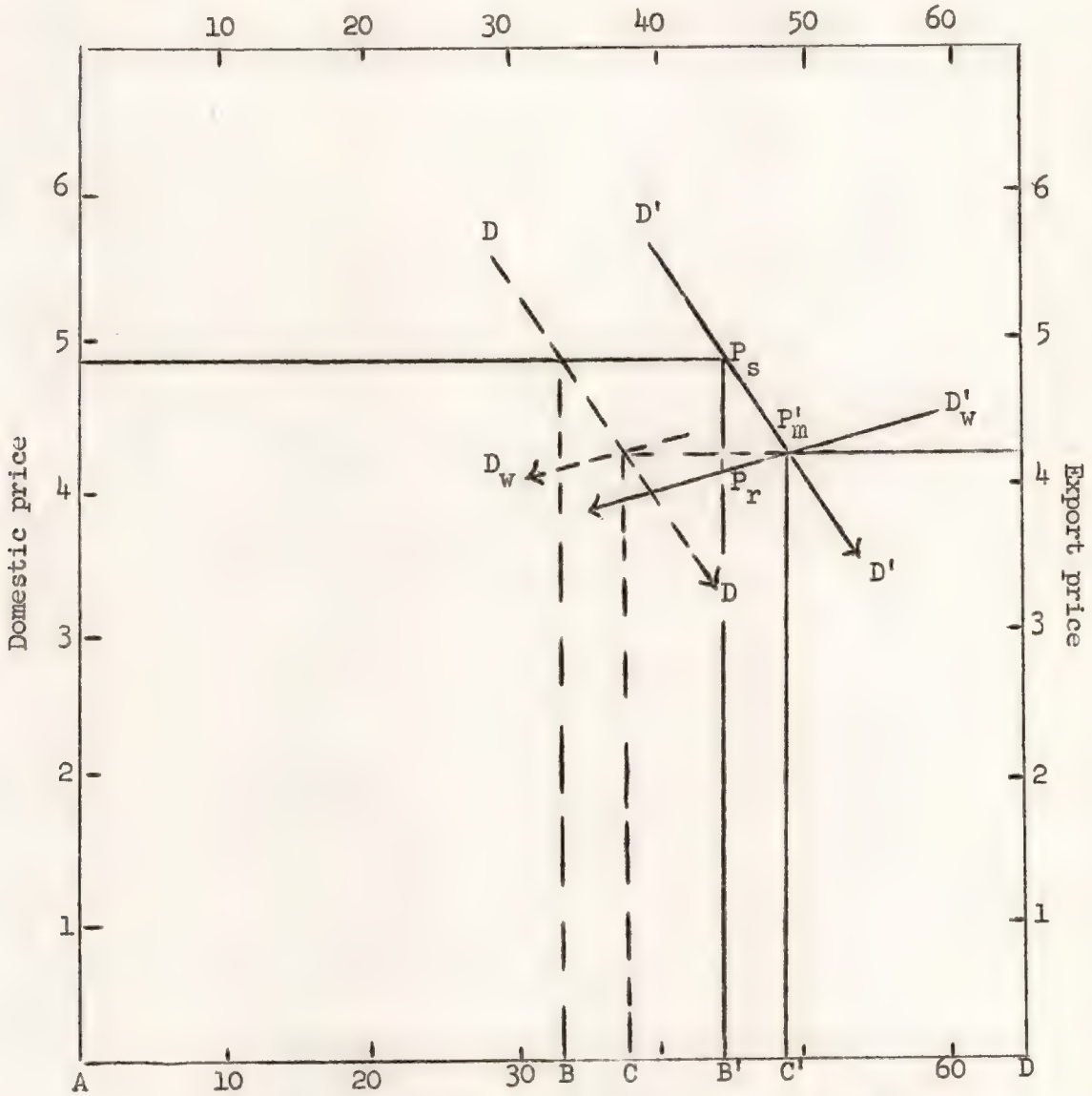
The effects of the inclusion of Cuba in the primary market are shown in Figure 3 and Table 2. Primary market use is shifted from AB, 33,000,000 sacks, to AB', 43,800,000 sacks. The supply from secondary use would be reduced from 32,000,000 sacks to 21,200,000 sacks. The support price target for the primary market, the world price, and the export price obtained from the disposition of the secondary supply would be unchanged under the assumptions specified here.

Under the allotment plans, the returns would range from $26,000,000 higher, at a world price of $4.25, to $59,000,000 higher, with a world price of $3.50, as compared with free-market disposition of the entire crop. Under the subsidy

plan, returns would range from $29,000,000, with a world price of $4.25, to $62,000,000, with a world price of $3.50--higher than with free-market disposition. Thus, if Cuba were included, returns nearly as high as those obtainable with diversion could be obtained by allotment or subsidy, and the difficulties of diversion could be largely avoided. The subsidy plan still offers higher returns.

FIGURE 3

United States Rice: Average Annual Farm Prices and Allocation of Annual Supply Under Alternative Support Programs--Inclusion of Cuba



Total annual U.S. supply, million cwts., rough basis

P_s : $4.92	AD: 65 million cwts.	B'C': 4.6 million cwts.
P_m : 4.25	B'D: 21.2	C'D : 16.6
P_r : 4.10	AB': 43.8	AC' : 48.4

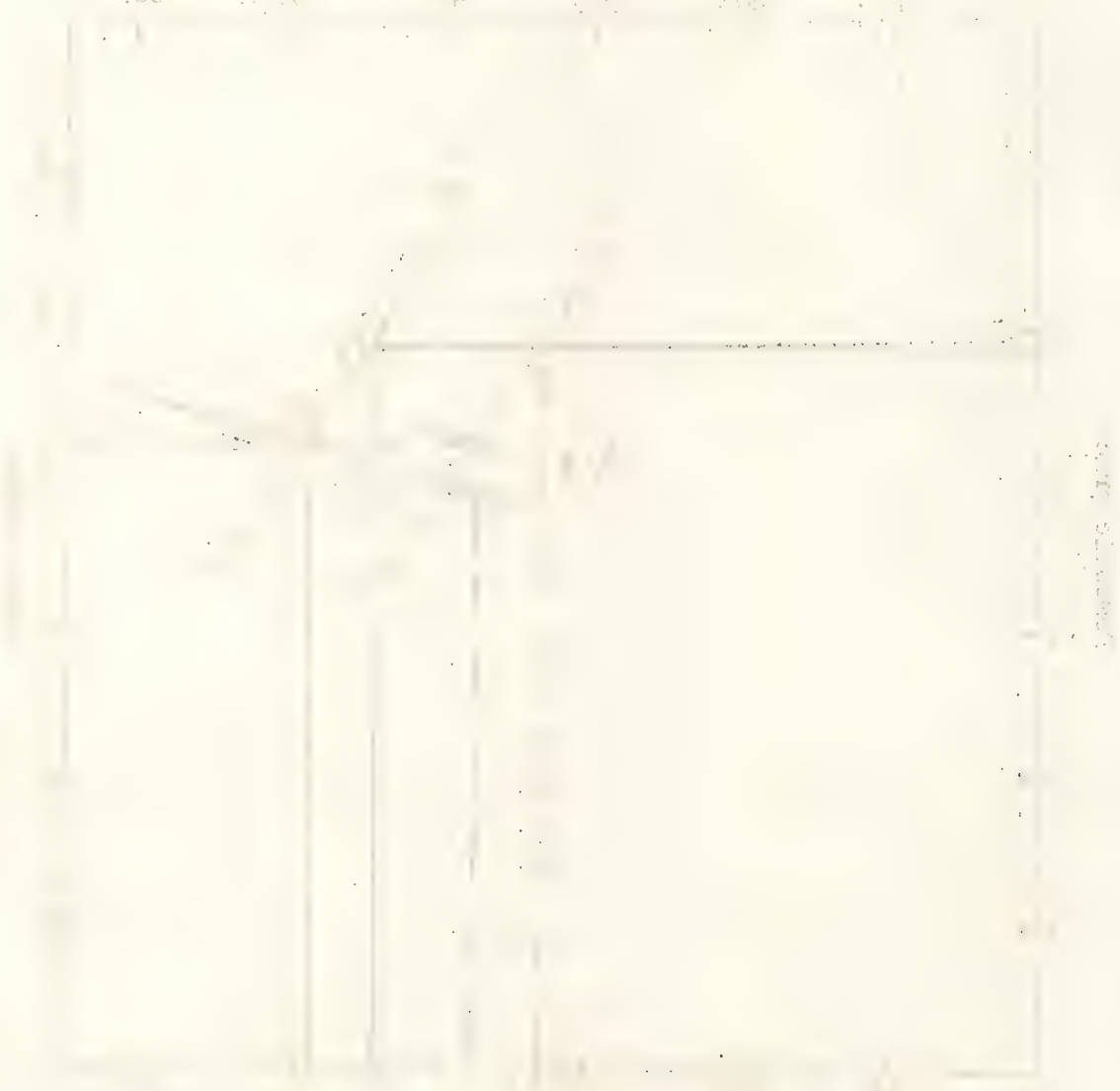


TABLE 2[a/]

United States Rice: Estimated Allocation of Supply Between Domestic and Export Outlets, Prices, and Gross Farm Returns With Multiple-Price Plans Restricting Domestic Sales to Quantity Salable at 90 Per Cent of Parity Price and Under Direct Subsidy

World price	Value, free market	Multiple price[b/]				Subsidy[d/]			Difference, excluding Cuba	
		Export		Gross value	Difference (5) - (2)	Gross value	Differences			
		Price[c/]	Value				(7) - (2)	(7) - (5)	(5)	(7)
1	2	3	4	5	6	7	8	9	10	11
dollars per hundred-weight	million dollars	dollars per hundred-weight	million dollars							
4.25	276	4.10	87	302	26	305	29	3	9	4
4.00	260	3.85	82	297	37	300	40	3	12	4
3.75	244	3.60	76	291	47	295	51	4	14	3
3.50	227	3.35	71	286	59	289	62	3	17	1

a/ See Table 1 for free market allocation and returns.

b/ Domestic Cuban use would be 43.8 million sacks, price $4.92 and value $215.5 million, exports 21.2 million sacks.

c/ Elasticity somewhat less than unity.

d/ Free sale in all markets, payment of 90-per cent parity minus average price on domestic Cuban sales.

TABLE 5[a]

Selected US Net Cash Flows and Market Effects of Partly Euro and Under Dollar Denominated Export Sales, Prices, and Gross Earnings Versus Multiple-Euro Plans Resulting in Equivalent Net Cash Flows

Multiple Euros[b]						Dollars					
Export Prices			Gross Value	Gross Value	Difference (2) - (3)	Gross Value	Differences (1) - (2)	Differences (1) - (3)	Differences (2)	Differences (1)	
Euros per Unit	Euros per Unit	Euros per Unit	Million Euros	Million Euros	Million Euros	Million Dollars	Million Dollars	Million Dollars	Million Dollars	Million Dollars	
1	2	3	4	5	6	7	8	9	10	11	
4.25	4.10	3.95	18	305	56	305	25	3	9	4	
4.00	3.85	3.70	16	285	52	300	15	3	14	4	
3.75	3.60	3.45	15	265	49	280	15	4	14	3	
3.50	3.35	3.20	14	245	45	260	15	4	14	3	
3.25	3.10	2.95	13	225	41	240	15	4	14	3	

[a] Base sample 1 for free market allocation and response.

[b] Domestic Canon mse model to 43.8 million euros, price 44.95 and value 425.5 million, exports 21.5 million euros.

[c] Elasticity constant term multi.

[d] Mrs euro mi mil rentery, Inflorst of 20-per cent Instify mtund ·everege Intge on ·domestic Canon euros.